Work Completed

One of the first tasks completed for this week was finishing construction on the wheel. All bare areas were completely covered with multiple coats of paint. Also areas where paint had dripped were cleaned and re-painted. After this paint was allowed to dry the numbers were added to the wheel. The chosen numbers are silver and sparkled. This adds visual appeal to the project, as requested by the client. Assuming previous values, red is worth two points, yellow is worth four points, blue is worth six points and the two green pie pieces are worth ten points. The rotation of the colors is red, blue, yellow and green. This provides adequate separation of the point values. Please see Fig. 1 for a visualization of this.

Figure 1: Completed Wheel

After all numbers were applied a top coat was applied. This top coat is clear in color and will provide additional protection to the paint and the adherence of the numbers. An additional top coat will be applied for additional protection. Durability of the wheel was taken into much consideration so the adults are able to play the game for an extended amount of time.

Testing of the wheel also took place. The wheel was mounted onto the shaft and hooked up to a 12V power supply. The motor functioned properly and was able to spin the wheel with ease. This is to much comfort as the motor was doubted at first. The wheel spins at an adequate speed that is not too fast as to not see the wheel spinning but will provide adequate spin to reveal a questionable amount of points. A visit to the machine shop was conducted on Tuesday April 3, 2007. Construction of the inside of the base and support system needed to be worked on. Also how to attach
and secure the motor needed to be analyzed. With help from Serge in the machine shop this was completed. Instead of using the bearing block and having the motor hang from the shaft through the inside of the bearing block, it was determined to rid the use of the bearing and attach an aluminum plate to the top of the wooden block that the motor would be attached to. Holes were drilled into the center of the aluminum sheet and wooden block. These holes were just big enough to allow the motor to fit through. The aluminum plate was then screwed into the top of the wooden block. Figure 2 displays how the motor is able to fit into this support system.

![Figure 2: Support System](image1)

As one can see the motor is exposed in the center of the wooden block. This allows for the wires to attach to the bottom of the motor. Weight will decrease due to not using the bearing block any longer. Attachment of the motor was then analyzed. Screws could be used to set the motor into place. This way the motor will not spin when activated, only the wheel. This can be seen in Fig. 3.

![Figure 3: Attachment of Motor](image2)
Future Work

Much work concerning the wheel will be concentrated in the following week. A visit to the hardware store and possibly the auto store is a must to gain recommendations on the mentioned primers. Further research must also be conducted on these primers. Once the appropriate primer is obtained the wheel must be painted as soon as possible. As soon as the wheel is painted the game can begin to be put together. Another visit to the machine shop will occur to speed up this occurrence. The motor problems will be looked into and a solution will be drawn upon. The questions and answers will be sent to Dr. Hallowell to make sure they are appropriate.

Project Review

Much progress was made on the overall game this week. Completing the wheel was important to finish so that testing could occur. Time will be saved now that the motor is functioning properly and the wheel spins at an optimal speed. Attachment of the motor worked well and solves many of the problems outlined in the previous weeks. Overall much of the construction is completed which will allow for overall testing in the following weeks.

Hours Worked

13 hours